

Listing of Claims:

1. (Previously presented) A rubber composition based on a diene elastomer, a reinforcing filler, a plasticizing system and a cross-linking system, wherein said plasticizing system comprises (phr = parts by weight per hundred parts of elastomer):

between 5 and 35 phr of an MES or TDAE oil; and

between 5 and 35 phr of a polylimonene resin.

2. (Previously presented) The composition according to Claim 1, wherein the amount of polylimonene resin is between 5 and 25 phr.

3. (Previously presented) The composition according to Claim 2, wherein the amount of polylimonene resin between 5 and 20 phr.

4. (Previously presented) The composition according to Claim 1, the glass transition temperature (T_g) of the polylimonene resin is greater than 40°C.

5. (Previously presented) The composition according to Claim 4, wherein T_g is greater than 50°C.

6. (Previously presented) The composition according to Claim 1, wherein the number-average molecular weight (M_n) of the polylimonene resin is between 400 and 2000 g/mol.

7. (Previously presented) The composition according to Claim 6, wherein Mn is between 500 and 1000 g/mol.

8. (Previously presented) The composition according to Claim 1, wherein the amount of MES or TDAE oil is between 10 and 30 phr.

9. (Previously presented) The composition according to Claim 8, wherein the amount of MES or TDAE oil is between 10 and 25 phr.

10. (Previously presented) The composition according to Claim 1, wherein the amount of total plasticizing system is between 15 and 45 phr.

11. (Previously presented) The composition according to Claim 10, wherein the amount of total plasticizing system is between 20 and 40 phr.

12. (Previously presented) The composition according to Claim 1, wherein the plasticizing system furthermore comprises an unsaturated (C₁₂-C₂₂) fatty acid triester of glycerol.

13. (Previously presented) The composition according to Claim 1, wherein the plasticizing system furthermore comprises an unsaturated (C₁₂-C₂₂) fatty acid triester of glycerol which a glycerol trioleate.

14. (Previously presented) The composition according to Claim 13, wherein the glycerol trioleate is present in the form of a vegetable sunflower oil or rapeseed oil.

15. (Previously presented) The composition according to Claim 12 or 13, wherein the amount of triester is between 5 and 35 phr.

16. (Previously presented) The composition according to Claim 12 or 13, wherein the amount of total plasticizing system is between 20 and 70 phr.

17. (Previously presented) The composition according to Claim 16, wherein the amount of total plasticizing system is between 30 and 60 phr.

18. (Previously presented) The composition according to Claim 1, wherein the diene elastomer is selected from the group consisting of polybutadienes, natural rubber, synthetic polyisoprenes, butadiene copolymers, isoprene copolymers and mixtures of these elastomers.

19. (Previously presented) The composition according to Claim 1, wherein the amount of reinforcing filler is between 20 and 200 phr.

20. (Previously presented) The composition according to Claim 1, wherein the amount of reinforcing filler is between 30 phr and 150 phr.

21. (Previously presented) The composition according to Claims 19 or 20, wherein the reinforcing filler comprises majoritarily an inorganic filler in an amount of more than 50% by weight relative to the quantity of said reinforcing filler.

22. (Previously presented) The composition according to Claim 21, wherein the inorganic reinforcing filler is silica.

23. (Previously presented) The composition according to Claims 19 or 20, wherein the reinforcing filler comprises majoritarily an organic filler in an amount of more than 50% by weight relative to the quantity of said reinforcing filler.

24. (Previously presented) The composition according to Claim 23, wherein the reinforcing organic filler carbon black.

25. (Previously presented) A process for preparing a rubber composition having an improved resistance to abrasion and to cuts, this composition based on a diene elastomer, a reinforcing filler, a plasticizing system and a cross-linking system, said process comprising the following steps:

incorporating in a diene elastomer, during a first step referred to as "non-productive", at least a reinforcing filler and a plasticizing system, by thermomechanically kneading the entire mixture, in one or more stages, until a maximum temperature of between 110°C and 190°C is reached;

cooling the entire mixture to a temperature of less than 100°C;

then incorporating, during a second step referred to as "productive", the cross-linking system; and

kneading the entire mixture until a maximum temperature of less than 110°C is reached,

wherein said plasticizing system comprises:

between 5 and 35 phr of an MES or TDAE oil; and

between 5 and 35 phr of a polylimonene resin.

26. (Previously presented) The process according to Claim 25, wherein the amount of polylimonene resin is between 5 and 25 phr.

27. (Previously presented) The process according to Claim 26, wherein the amount of polylimonene resin is between 5 and 20 phr.

28. (Previously presented) The process according to Claim 25, wherein the glass transition temperature (T_g) of the polylimonene resin is greater than 40°C.

29. (Previously presented) The process according to Claim 25, wherein the number-average molecular weight (M_n) of the polylimonene resin is between 400 and 2000 g/mol.

30. (Previously presented) The process according to Claim 25, wherein, the amount of MES or TDAE oil is between 10 and 30 phr.

31. (Previously presented) The process according to Claim 25, wherein the amount of total plasticizing system is between 15 and 45 phr.

32. (Previously presented) The process according to Claim 25, wherein the plasticizing system furthermore comprises an unsaturated (C₁₂-C₂₂) fatty acid triester of glycerol.

33. (Currently amended) The process according to Claim 32, wherein the plasticizing system furthermore comprises unsaturated (C₁₂-C₂₂) fatty acid ~~trister~~ triesters of glycerol which is a glycerol trioleate.

34. (Previously presented) The process according to Claim 33, wherein the glycerol trioleate is present in the form of a vegetable sunflower oil or rapeseed oil.

35. (Currently amended) The process according to Claim 32 or 33, wherein the amount of ~~trimester~~ triesters is between 5 and 35 phr.

36. (Previously presented) The process according to Claim 32, wherein the amount of total plasticizing system is between 20 and 70 phr.

37. (Previously presented) The process according to Claim 25, wherein the diene elastomer is selected from among the group consisting of polybutadienes, natural rubber, synthetic polyisoprenes, butadiene copolymers, isoprene copolymers and mixtures of these elastomers.

38. (Previously presented) The process according to Claim 25, wherein the amount of reinforcing filler is between 20 and 200 phr.

39. - 42. (Cancelled)

43. (Previously presented) A finished article intended for a suspension system of a motor vehicle, comprising a composition according to Claim 1.

44. (Previously presented) The finished article according to Claim 43, consisting of a tire.

45. (Previously presented) A winter tire comprising a rubber composition according to Claim 12.

46. (Previously presented) A semi-finished product intended for a suspension system of a motor vehicle, comprising a composition according to Claim 1.

47. (Previously presented) The semi-finished product according to Claim 46, consisting of a tire tread.

48. (Previously presented) A winter tire having a tread comprising a rubber composition according to Claim 12.

49. (Previously presented) A plasticizing system usable for the plasticizing of a diene rubber composition, wherein said plasticizing system comprises an MES or TDAE oil and a polylimonene resin.

50. (Previously presented) The plasticizing system according to Claim 49, wherein said plasticizing system furthermore comprises an unsaturated (C₁₂-C₂₂) fatty acid triester of glycerol.

51. (Previously presented) The plasticizing system according to Claim 50, wherein the triester is a glycerol trioleate.

52. (Previously presented) The plasticizing system according to Claim 51, wherein the glycerol trioleate is present in the form of a vegetable sunflower oil or rapeseed oil.

53. (Cancelled)

54. (Previously presented) A winter tire having a tread comprising a rubber composition according to Claim 13.

55. (Previously presented) A winter tire having a tread comprising a rubber composition according to Claim 14.

56. (Previously presented) A winter tire having a tread comprising a rubber composition according to Claim 15.

57. (Previously presented) A winter tire having a tread comprising a rubber composition according to Claim 16.

58. (Previously presented) A winter tire having a tread comprising a rubber composition according to Claim 17.